

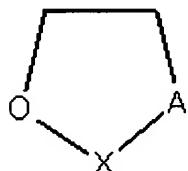
Appln No. 10/743,638
Amdt date November 27, 2006
Reply to Office action of October 26, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) An electrolyte for a rechargeable lithium battery comprising:
a non-aqueous organic solvent;
a lithium salt; and
an additive represented by formula 1:



(1)

where X is a functional group that includes Y, where Y is an element selected from Groups 3, 4, 5, and 6 of the Periodic Table; and

A is O or NR, where R is a C₁ to C₆ alkyl group;

wherein if X is CO, A is NR.[I]]

2. (Original) The electrolyte of claim 1, wherein Y is selected from the group consisting of B, C, Si, N, P, and S.

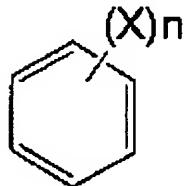
3. (Original) The electrolyte of claim 1, wherein X is selected from the group consisting of SO₂, CO, SO, and PO.

4. (Original) The electrolyte of claim 1, wherein the additive is provided in an amount between 0.01 and 10 wt% of the weight of the non-aqueous organic solvent.

5. (Original) The electrolyte of claim 1, wherein the non-aqueous organic solvent is selected from the group consisting of cyclic carbonates, linear carbonates, esters, ethers, ketones and mixtures thereof.

6. (Original) The electrolyte of claim 5, wherein the non-aqueous organic solvent further comprises a halogenated benzene represented by formula 2[.]]:

Appln No. 10/743,638
Am dt date November 27, 2006
Reply to Office action of October 26, 2006



(2)

where X is F, Cl, Br or I, and n is an integer from 1 to 3.

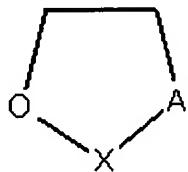
7. (Original) The electrolyte of claim 6, wherein the halogenated benzene is provided in an amount between 1 and 20 parts by weight based on 100 parts by weight of the electrolyte.

8. (Original) The electrolyte of claim 1, wherein the lithium salt is selected from the group consisting of lithium hexafluorophosphate (LiPF₆), lithium tetrafluoroborate (LiBF₄), lithium perchlorate (LiClO₄), lithium trifluoromethanesulfonate (CF₃SO₃Li), lithium hexafluoroarsenate (LiAsF₆) and mixtures thereof.

9. (Original) A rechargeable lithium battery comprising:
an electrolyte comprising a non-aqueous organic solvent, a lithium salt and
an additive represented by formula 1:

a positive electrode comprising a positive active material which is capable of intercalating and deintercalating lithium; and

a negative electrode comprising a negative active material which is capable of intercalating and deintercalating lithium; and



(1)

where X is a functional group that includes Y, where Y is an element belonging to Groups 3, 4, 5 or 6 of the Periodic Table; A is O or NR, where R is a C₁ to C₆ alkyl group; and if X is CO, A is NR.

Appn No. 10/743,638
Amdt date November 27, 2006
Reply to Office action of October 26, 2006

10. (Original) The rechargeable lithium battery of claim 9, wherein Y is selected from the group consisting of B, C, Si, N, P, and S.

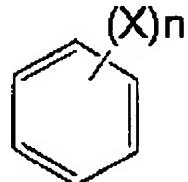
11. (Original) The rechargeable lithium battery of claim 1, wherein X is selected from the group consisting of SO₂, CO, SO, and PO.

12. (Original) The rechargeable lithium battery of claim 9, wherein the additive is provided in an amount from 0.01 to 10 wt% of the weight of the non-aqueous organic solvent.

13. (Original) The rechargeable lithium battery of claim 9, wherein the negative active material is selected from the group consisting of crystalline carbon, amorphous carbon and carbon composites.

14. (Original) The rechargeable lithium battery of claim 9, wherein the non-aqueous organic solvent is selected from the group consisting of cyclic carbonates, linear carbonates, esters, ethers, ketones and combinations thereof.

15. (Original) The rechargeable lithium battery of claim 14, wherein the non-aqueous organic solvent further comprises a halogenated benzene represented by formula 2:



(2)

where X is F, Cl, Br or I, and n is an integer from 1 to 3.

16. (Original) The rechargeable lithium battery of claim 15, wherein the halogenated benzene is provided in an amount from 1 to 20 parts by weight based on 100 parts by weight of the electrolyte.

17. (Original) The rechargeable lithium battery of claim 9, wherein the lithium salt is selected from the group consisting of lithium hexafluorophosphate (LiPF₆), lithium tetrafluoroborate (LiBF₄), lithium perchlorate (LiClO₄), lithium trifluoromethanesulfonate (CF₃SO₃Li), lithium hexafluoroarsenate (LiAsF₆) and combinations thereof.

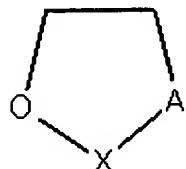
18. (Original) An electrolyte for a rechargeable lithium battery comprising:

Appln No. 10/743,638
Amdt date November 27, 2006
Reply to Office action of October 26, 2006

a non-aqueous organic solvent;

a lithium salt; and

an additive of the form



where X is selected from the group consisting of SO₂, CO, SO and PO and A is selected from the group consisting of O and NR where R is a C₁ to C₆ alkyl group, wherein, if X is CO, A is NR.

19. (New) The electrolyte of claim 18 wherein X is SO₂ and A is O.

20. (New) The electrolyte of claim 19 wherein the non-aqueous organic solvent is a mixed solvent comprising at least one cyclic carbonate, at least one linear carbonate, and a halogenated benzene.